BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	WC Docket No. 07-135
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337
	)	
Developing an Unified Intercarrier Compensation Regime	)	CC Docket No. 01-92

COMMENTS OF HYPERCUBE TELECOM, LLC ON FURTHER NOTICE OF PROPOSED RULEMAKING

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EXECUTIVE SUMMARY

HyperCube Telecom, LLC, submits these Comments in response to the Further Notice of Proposed Rulemaking issued in the *USF/ICC Transformation* proceeding.

HyperCube recommends that the Commission exercise its authority to adopt rules that would require all incumbent local exchange carriers ("ILECs") to enter into good faith negotiations for direct interconnection of their networks with the networks of carriers making a *bona fide* request for such interconnection. A *bona fide* request would include a showing that the carrier seeking direct interconnection has simultaneous traffic to exchange that would require minimum facilities equivalent to four T-1s, regardless of underlying technology. This rule would establish a standard for state regulators to apply in making decisions as to whether an ILEC was entitled to an exemption under Section 251(f) from its obligation to negotiate interconnection in good faith. The interconnection arrangement would be for TDM traffic until the ILEC was required to provide IP-to-IP interconnection, but could be used for IP-formatted traffic before that date if the interconnecting carrier assumed responsibility for any required media conversion.

The Commission also should require all carriers to provide indirect IP interconnection immediately. With certain exceptions, direct IP interconnection would be required at the earlier of (1) the ICC transition deadline (six or nine years) applicable to the carrier, or (2) the date the ILEC or an affiliate offered IP-formatted services to its own end-users. An ILEC could receive postponement of the direct interconnection obligation if indirect IP interconnection was available and the ILEC showed that such interconnection would be inefficient or would pose an economic hardship.

During the transition to all-IP networks, there should be no mandated elimination of originating access charges. Such traffic does not present arbitrage opportunities, and originating access charges are largely irrelevant in the case of vertically integrated carriers or traffic exchanged pursuant to contracts. 8YY traffic should be treated in the same manner as other originating traffic.

Finally, while HyperCube is very much in favor of strict signaling, it is premature to adopt call signaling rules for one-way Voice over Internet Protocol services. Industry study groups are now beginning to analyze this issue, but have not yet issued any recommendations.

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HyperCube Telecom, LLC ("HyperCube"), by its attorneys, submits its comments in response to the *Further Notice of Proposed Rulemaking* ("*FNPRM*") issued by the Federal Communications Commission (the "FCC" or the "Commission") in the above-captioned proceeding.[1]

HyperCube, headquartered near Dallas, Texas,[2] is a premier provider of wholesale local and national tandem switching and transport services using a tandem infrastructure that supports

[1] *In the Matter of Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161 (Nov. 18, 2011) (the "*Order*"). The Commission and its Wireless Competition Bureau subsequently issued (1) *sua sponte*, an *Order on Reconsideration*, FCC 11-189 (Dec. 23, 2011), which, *inter alia*, delayed the bill-and-keep transition for intraMTA CMRS/LEC traffic exchanged pursuant to existing contracts; and (2) an *Order*, DA 12-147 (Feb. 3, 2012), which, *inter alia*, clarified that there are a variety of ways in which carriers may calculate the percentage of traffic governed by the "VoIP-PSTN" framework. *Id.* at ¶23. Numerous parties have petitioned for review of the *Order*. *See, e.g.*, *Direct Commc'n Cedar Valley v. Fed. Commc'n. Comm'n*, No. 11-9581 (10th Cir. filed Dec. 8, 2011).

[2] HyperCube has entered into a definitive agreement to be acquired by West Corporation, a leading provider of technology-driven voice and data solutions headquartered in Omaha, Nebraska. The

both Time-Division Multiplexing ("TDM") and Internet Protocol ("IP") interconnection. HyperCube performs switching, transport, signaling, database queries, and media conversion, among other services. By bridging emerging and traditional networks, and by translating calls to and from TDM and IP formats, HyperCube offers solutions that will continue to play a critical role in ensuring that the nation makes a smooth transition to all-IP networks.

These Comments address certain issues relating to intercarrier compensation ("ICC") and interconnection raised in Sections XVII.L-R of the *FNPRM*.

I. During the Transition, the Commission Should Require All ILECs to Enter Into Good Faith Negotiations for Direct Interconnection of Networks Under Section 251(c).

The vast majority of HyperCube's traffic is exchanged pursuant to bilateral negotiated commercial agreements, rather than tariffs. The traffic volumes which traverse HyperCube's network, along with the inherent efficiencies of modern network design, have increasingly made negotiated commercial agreements a viable alternative to traditional interconnection arrangements and tariff-based services.[3] HyperCube therefore endorses Commission efforts to bring greater efficiency to the ICC system by promoting good faith negotiation of commercial agreements between service providers, thereby reducing reliance on tariffs as the primary

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Commission's International and Wireless Competition Bureaus have approved the related applications filed with the FCC. *International Authorizations Granted,* Public Notice, Report No. TEL-01538, DA 12-43 (rel. Jan. 12, 2012) (reporting Jan. 6, 2012, grant of File No. ITC-T/C-20111201-00363); *Notice of Non-Streamlined Domestic Section 214 Application Granted,* WC Docket No. 11-198, Public Notice, DA 12-72 (rel. Jan. 20, 2012).

[3] *Cf. FNPRM* at ¶1323 ("As carriers transition from the existing access charge regime to the section 251(b)(5) framework and bill-and-keep methodology adopted in this Order, we believe they will rely primarily on negotiated interconnection agreements rather than tariffs to set the terms on which traffic is exchanged.").

documents governing traffic exchanges.[4] HyperCube agrees with the Commission that negotiated agreements will become increasingly important during the transition to an ICC regime appropriate for the Twenty-First Century, as traditional circuit-switched networks are being upgraded to an all-IP broadband infrastructure.[5]

One important step the Commission can take to "affirmatively encourage the transition to IP-to-IP interconnection"[6] is to require all incumbent local exchange carriers ("ILECs") to negotiate in good faith for direct interconnection of their networks with carriers making *bona fide* direct interconnection requests for the purposes of exchanging traffic, as such requests are objectively and reasonably defined below.[7] In parallel with the Commission's transition schedule for implementation of its targeted ICC reforms, the Commission should clarify its rules to ensure adequate opportunities for direct interconnection of ILEC and competitive local

[4] *See, e.g.*, *FNPRM* at ¶1322 ("We believe that generally continuing to rely on tariffs while also allowing carriers to negotiate alternatives during the transition is in the public interest because it provides the certainty of a tariffing option, which historically has been used for access charges, while still allowing carriers to better tailor their arrangements to their particular circumstances and the evolving marketplace than would be accommodated by exclusively relying on 'one size fits all' tariffs.") (citations omitted); *see also Order* at ¶950 (carriers may negotiate interconnection agreements for VoIP-PSTN traffic in lieu of applying tariffed rates); *Order* at ¶972 ("we make clear that a carrier that otherwise has a section 251(c)(2) interconnection arrangement with an incumbent LEC is free to deliver toll VoIP-PSTN traffic through that arrangement, as well, consistent with the provisions of its interconnection agreement."); *Order* at ¶840 ("while interconnection for the exchange of access traffic does not currently implicate section 251(b), an interconnection agreement for the exchange of reciprocal compensation traffic may contain terms relevant to determining appropriate rates under the statute and Commission rules."); *Order* at ¶34 ("states will have a key role . . . in evaluating interconnection agreements negotiated or arbitrated under the framework in sections 251 and 252 of the Communications Act.").

[5] The Commission envisions eventual primary reliance on negotiated agreements. *FNPRM* at ¶¶ 1323, 1324.

[6] *Id.* at ¶1360.

[7] As discussed in the next section, the Commission also should immediately require all carriers to provide indirect IP interconnection, with an ILEC generally required to provide direct interconnection to competitive local exchange carriers ("CLECs") when the ILEC (or its affiliate) offers IP-formatted services to its end-users or when it completes its transition from the current ICC regime.

exchange carrier ('CLEC") networks, and for indirect or direct IP-to-IP interconnection for the exchange of voice traffic.[8] These measures will promote achievement of the Commission's goal of "facilitating industry progression to all-IP networks,"[9] and allow the marketplace to provide a full range of options for traffic completion that will encourage efficient network design and the availability of new services to the public.

A. Difficulties Obtaining Interconnection Agreements with Some ILECs.

The Commission expressly sought comment to help it "better understand the nature of interconnection arrangements with rural carriers today."[10] In HyperCube's experience, a major obstacle to greater efficiency in traffic transmission has been the reluctance of many rural ILECs to exchange traffic directly with any LECs other than the large incumbent carriers, even when the interconnection requests are reasonable and supportable on an economic basis.[11] This has unnecessarily created bottlenecks, artificially enhanced the market dominance of large vertically integrated carriers, and restricted the traffic transmission choices available to new market

[8] Additional traffic (including VoIP-PSTN traffic) is now within the Section 251(b)(5) reciprocal compensation framework. *Order* at ¶838 (intraMTA CMRS-LEC traffic); ¶948 (VoIP-PSTN traffic.).

[9] *FNPRM* at ¶1335.

[10] *Id.* at ¶1317. The Commission asked whether "interconnection [is] typically pursuant to negotiated agreements, rules, or another type of framework" and whether "indirect interconnection [is] the primary means of interconnection with small, rural carriers." *Id.*

[11] The record reflects that rural ILECs have had similar concerns about obtaining interconnection agreements with other carriers. *See Order* at ¶845; *FNPRM* at ¶1324 and n.2399 ((quoting Rural Associations Section XV Comments at 30) ("'Small carriers often have difficulty convincing other carriers to negotiate interconnection agreements with them, particularly where those other carriers can easily terminate their traffic via a transit or tandem provider and thus have no direct contact with the terminating rural carrier at all. In such circumstances, sending carriers are increasingly arguing that because there is no interconnection agreement, they can pay the terminating rural carrier whatever rate they deem appropriate, if anything at all.'")).

entrants, including IP-based service providers.[12] Given current concerns with rural call completion issues, it is particularly important to promote more diverse interconnections, especially with intermediate carriers, which carry a substantial amount of traffic.

B. Need for FCC Guidelines for Section 251(f) Exemptions.

In this context, regulatory intervention is necessary to ensure efficient traffic exchange arrangements that facilitate IP transition. In HyperCube's experience, rural ILECs have almost always taken advantage of the Section 251(f) "exemption" to avoid implementing their Section 251(c) obligation to negotiate interconnection arrangements. This has occurred even when there is substantial traffic (amounting to multiple DS3s) which could be exchanged.

The Commission therefore should exercise its authority to set guidelines for state regulators[13] by establishing an objective, bright-line standard for granting exemptions under Section 251(f) that would preclude reliance on generalized "economic hardship" claims when there is a *bona fide* request for good faith negotiation of direct interconnection. Such a standard could be readily applied by state regulators when arbitrating claims of denial of interconnection, as well as in evaluating the appropriateness of continuing previously-granted exemptions or suspensions and modifications.

C. Recommended Standard for *Bona Fide* Interconnection Requests.

Significantly, there is an established *de facto* industry standard for determining whether direct interconnection makes economic sense. The industry traditionally has found direct

[12] *See Order* at ¶707 n.1194 ("Competitive LECs, CMRS carriers, and rural LECs, who would otherwise have no efficient means of connecting their networks, often rely upon transit service from incumbent LECs to facilitate indirect interconnection with each other.").

[13] *Order* at ¶824 ("we may adopt specific, binding prophylactic rules that give content to, among other things, the "public interest, convenience, and necessity" standard that governs states' exercise of section 251(f)(2) authority to act on suspension/modification petitions."). *See* 47 U.S.C. § 251(f)(2)(B).

interconnection to be appropriate when there is a proposed exchange of traffic requiring minimum of four T-1s or the equivalent amount of simultaneous exchanged traffic.[14] With this minimum level of traffic volume, direct interconnection is almost always cost efficient for both carriers. With the decreasing cost of bandwidth and modern technologies such as public Internet, this is a conservative estimate of the traffic level necessary for the interconnection to add economic value.

Except in unusual circumstances rural ILECs should not be able to claim that interconnection would pose economic[15] or technical difficulties[16] warranting a Section 251(f) exemption when this traffic baseline is met.[17] Requiring negotiation of direct interconnection arrangements also would minimize the impact of transport rate structure incentives to favor network designs based on a multiplicity of circuit switches over more efficient network topologies relying on long loops and dedicated transport facilities.[18]

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[14] *Cf. FNPRM* at ¶1318 (noting CenturyLink's proposal for traffic volumes to dictate the appropriate number of interconnection points).

[15] *See* 47 U.S.C. § 251(f) (specifying certain exemption, suspension, and modification rights of certain rural LECs with respect to interconnection requests that they claim would be unduly economically burdensome or technically infeasible).

[16] The Commission's Rules include examples of technically feasible interconnection points for circuit-switched networks and place the burden on a LEC refusing interconnection on technical grounds to demonstrate the infeasibility. 47 C.F.R. § 51.305.

[17] LECs would, of course, be free to engage in negotiations for direct interconnection even at lower traffic levels.

[18] *See FNPRM* at ¶1297 ("Today, we adopt . . . the default methodology that will apply to all telecommunications traffic at the end of the complete transition period. . . . Although we specify the implementation of the transition for certain termination rates in the Order, we did not do the same for other rate elements, including . . . dedicated transport, tandem switching and tandem transport in some circumstances, and other charges including dedicated transport signaling, and signaling for tandem switching."), seeking comment on the appropriate transition glide path for such rate elements.

D. Implementation Procedures.

HyperCube therefore recommends that the Commission rule that any requesting carrier seeking direct interconnection with any LEC would be deemed to have made a *bona fide* request for good faith negotiation of a direct interconnection agreement if the requesting carrier demonstrates that it meets the baseline traffic exchange level. An ILEC that attempts to avoid such negotiations using Section 251(f) would bear the burden of proof to demonstrate that the request is "unduly economically burdensome."[19] Section 252 remedies[20] would apply with respect to refusals to negotiate.

In order to expedite IP transition, the Commission should immediately mandate the direct CLEC interconnection rights described above for traffic exchanged in TDM format. These rights should be extended also (and, in some cases, immediately) to IP-formatted traffic exchanges under the standards specified below for IP-to-IP interconnection.[21] Until an ILEC is required to exchange traffic in IP format,[22] however, any media conversion required for IP interconnection should be the obligation of the carrier seeking to negotiate direct interconnection arrangements.[23]

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[19] *See* 47 U.S.C. §§ 251(f)(1)(A)(ii), (2)(A)(ii).

[20] The *Order* affirmed the availability of remedies analogous to those of Section 252 with respect to LEC-CMRS negotiations. *Order* at ¶841.

[21] The Commission has held, however, that ILECs must negotiate in good faith in response to requests for agreements addressing reciprocal compensation for VoIP-PSTN traffic. *FNPRM* at ¶965 n.2004. The *Order* made non-toll VoIP-PSTN traffic subject to reciprocal compensation and all VoIP-PSTN traffic subject to Section 251(b)(5). *Order* at ¶943.

[22] An ILEC generally would not be required to exchange traffic in IP format prior to the earlier of the end of the Applicable Transition (that is, the transition period (six or nine years) applicable to the carrier as established by the *Order*) or the time the LEC or an affiliate implemented IP. Good faith direct IP-format interconnection negotiations would be mandatory as of that date. The failure to engage in such good faith negotiations if the four T-1 or equivalent standard is satisfied also could be deemed a breach of the applicable rules and an unreasonable practice under the Act that could be addressed through the Commission's complaint procedures. *Cf. Order* at ¶42 ("We also make clear that even while our FNPRM

Under this rule, ILECs would not be forced prematurely to provide direct IP interconnection prior to technology upgrades. Even prior to the ILEC technology upgrades, however, implementation of the rule would accelerate the IP transition by giving all-IP service providers more marketplace options for indirect IP interconnection through network bridge operators.

To the extent that a direct interconnection arrangement took the default form of a standard interconnection agreement ("ICA")[24] addressing the technical means of direct interconnection and the compensation for reciprocal compensation traffic, other carriers meeting the *bona fide* request standard would be entitled to "opt in" to the agreement, provided they accepted all its terms and conditions. Additionally, to accelerate further the transition from traditional arrangements to forward-looking agreements that anticipate and facilitate the switch to an all-IP infrastructure, carriers making *bona fide* interconnection requests also would be entitled to negotiate individualized, broader commercial agreements that would encompass traffic exchange and other services and pricing options**.** Some of these options could include incentives for the LEC to accelerate its deployment of IP infrastructure or to migrate from arrangements requiring interconnection at the LATA level to ones more appropriate for an all-IP infrastructure not circumscribed by legacy regulatory burdens.

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is pending, we expect all carriers to negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic.").

[23] *See* Attachment A (comprising diagrams illustrating the media conversion responsibility under alternative scenarios).

[24] *See Order* at ¶961 n.1975 ("We use the term 'interconnection agreement' broadly in this context to encompass agreements that might not address all aspects of section 251's requirements beyond intercarrier compensation, and regardless of the terminology that the parties use to describe the arrangement.").

The market can be expected to quickly respond to this new opportunity. This will promote the shift from networks artificially limited by bottlenecks toward architectures featuring competitive, traffic-based meet-points that maximize gateway options for existing and new market entrants and promote deployment of IP infrastructure.

II. During the Transition, the Commission Should Mandate Indirect IP-to-IP Interconnection Immediately.

The Commission's stated goal is to "affirmatively encourage the transition to IP-to-IP interconnection where it increases overall efficiency for providers to interconnect in this manner."[25] In order to achieve the goal of promoting efficient IP-to-IP interconnection, the Commission should now exercise its authority to require indirect IP-to-IP interconnection immediately.

A. FCC Authority to Require Indirect IP-to-IP Interconnection.

As HyperCube has shown in previous filings in this proceeding,[26] the Commission has authority to mandate indirect IP-to-IP interconnection for all providers (including CLECs and commercial mobile radio service ("CMRS") providers) under Section 251(a)(1), as well as under Sections 201(a) and 256(a) of the Act.[27] HyperCube also has discussed the scope of the Commission's authority under Sections 251(b) and Section 252 to require indirect

[25] *FNPRM* at ¶1360. *See also Omnibus Broadband Initiative, Connecting America: The National Broadband Plan*, GN Docket No. 09-51, at 49 (Recommendation 4.10), 59, 153 (2010) ("the FCC should clarify interconnection rights and obligations and encourage the shift to IP-to-IP interconnection").

[26] Comments of Hypercube Telecom, LLC on Further Inquiry Public Notice (filed Aug. 24, 2011) ("Further Inquiry Comments") at 8-12; *see also* Reply Comments of Hypercube Telecom, LLC on Further Inquiry Public Notice (filed Sept. 6, 2011) ("Further Inquiry Reply Comments").

[27] Further Inquiry Comments at 10-11.

interconnection subject to state arbitration.[28] Further, as HyperCube has shown, the Commission can impose IP interconnection obligations on Connect America Fund ("CAF") recipients under Section 254(b) and Section 706 as a condition of making an award of funds.[29] The Commission thus has ample authority to require all carriers, including rural LECs, to enter into good faith negotiations for indirect IP-to-IP interconnection.

HyperCube also has shown that there are multiple network bridge providers, including HyperCube, available to make such indirect interconnection technically feasible and cost-efficient.[30] Adoption of the recommended objective standard[31] for requiring good faith ILEC negotiation of direct interconnection arrangements with LECs should increase the marketplace options for indirect IP interconnection.

B. Obligation to Negotiate Direct IP-to-IP Interconnection By End of Transition.

The Commission also should generally require an ILEC (or any other carrier receiving CAF payments) to negotiate direct IP interconnection arrangements by the earlier of (1) the end of the ICC transition period applicable to the carrier (either six or nine years, depending on the type of carrier (the "Applicable Transition")), or (2) the date the carrier (or its affiliate) provides IP-formatted services to its end-users. So long as indirect IP interconnection is available, however, an ILEC could seek a postponement of the direct IP-to-IP interconnection deadline if the carrier demonstrated that it would not be efficient to upgrade to IP by the deadline or that

[28] *Id.* at 14-16.

[29] Further Inquiry Comments at 6, 12-13. Contractual provisions containing such conditions also could preclude ILECs from relying on the Section 251(f) exemption, suspension, and modification provisions to avoid interconnection. *See also FNPRM* at ¶1355 (soliciting comment on use of Section 706 authority to require good faith carrier negotiations for IP-to-IP interconnection).

[30] Further Inquiry Comments at 2-4.

[31] *See supra*, Section I.

such direct IP interconnection would pose an undue economic burden on the carrier. For example, an ILEC that had recently deployed TDM equipment could show that it would be premature and inefficient to replace that equipment by the deadline. Similarly, an ILEC experiencing economic hardship as a result of reductions in the number of lines served, ICC, or support mechanisms could demonstrate that the upgrade would be unaffordable in its financial circumstances.

Such a requirement will establish a date certain for mandatory direct IP interconnection in a manner consistent with the FCC's overall policy of phasing in major changes to the ICC system. It also will allow carriers with TDM-only networks to plan and schedule their IP deployment efficiently in the context of the new ICC regime. In the meantime, the mandatory indirect interconnection arrangements will ensure that IP voice traffic can be reliably completed.

C. Implementation Principles.

The Commission should adopt rules specifying basic principles for implementation of IP-to-IP interconnection and confirming that the TDM interconnection rules also apply to IP interconnection. The rules should also provide that TDM interconnection arrangements may be used for IP voice traffic, at least when the interconnector takes responsibility for media conversion before an ILEC has implemented technology upgrades.

Under the framework of these general rules, the Commission should rely in the first instance on industry practice and the marketplace to develop appropriate interconnection arrangements. The Commission should, however, continue to provide a forum for dispute resolution, such as when the guidelines are ignored. As HyperCube previously recommended,

this forum would supplement the state role in arbitration of interconnection disputes, as in the case of disputes involving multiple states.[32]

HyperCube therefore recommends that the Commission exercise its authority to adopt rules implementing the following principles to accelerate and inform negotiations for IP interconnection. These rules also would be applied in state and Commission proceedings initiated to compel such good faith negotiations.

- All carriers would be required to allow indirect interconnection for IP traffic under Section 251(a)(1) immediately.

- Media conversion would not be the responsibility of an ILEC until the ILEC is required to entertain direct interconnection negotiations for IP traffic exchanges, but direct interconnection arrangements made prior to that date would cover IP voice traffic converted to TDM format. (The diagrams in Attachment A illustrate the scope of this obligation.)

- Negotiation of direct interconnection arrangements for IP traffic would be optional during the Applicable Transition but mandatory thereafter, except that when an ILEC offers IP-formatted services (either itself or via an affiliate) to its end-users, it must then negotiate IP-formatted traffic exchange direct interconnection agreements with other carriers in good faith.

- So long as indirect IP interconnection with an ILEC is available, in certain circumstances an ILEC could obtain postponement of the direct IP-to-IP interconnection deadline beyond the Applicable Transition, as when it would be inefficient to replace existing equipment prematurely or when the ILEC was experiencing substantial economic hardship resulting from reductions in customer line revenues, ICC, and support mechanisms.

- The points of interconnection ("POIs") for direct IP interconnection would be mutually-agreed, but there would be a default maximum of one POI per state per carrier, and interconnection at central traffic exchange points should be

[32] Further Inquiry Comments at 14-16; Further Inquiry Reply Comments at 3-4. The Commission already determined to apply procedures analogous to those specified in Section 252 to LEC-CMRS interconnection. *Order* at ¶ 841.

encouraged to maximize efficiency and avoid unnecessary duplication of facilities.[33]

- Standard ICAs covering IP interconnection would be handled as ICAs are today, subject to such requirements as non-discrimination, opt-in, and state approval and arbitration.

- Carriers would be encouraged to enter into bilateral negotiated commercial agreements for IP traffic exchange that go beyond ICAs and cover a variety of services and functionalities. These agreements would be proprietary and outside the ICA regulatory regime.

- Normal complaint procedures would apply, and complaints could be based in part on a failure to enter into good faith negotiations for a commercial agreement.

Adoption of these requirements is consistent with the Commission's goal of promoting IP-to-IP interconnection that increases overall efficiency. A LEC or other carrier's decision as to whether to migrate to IP before the end of the Applicable Transition would be based on its individual situation, minimizing pressure for additional revenue recovery and support mechanisms. The marketplace availability of multiple network bridge and media conversion services ensures that all carriers will have increased options for getting their traffic completed, and the availability of negotiated direct agreements covering at least TDM traffic exchanges should reduce costs for all parties.

[33] The *FNPRM* states, "Currently, under section 251(c)(2)(B), an incumbent LEC must allow a requesting telecommunications carrier to interconnect at any technically feasible point. The Commission has interpreted this provision to mean that competitive LECs have the option to interconnect at a single point of interconnection (POI) per LATA." *FNPRM* at ¶1316 (citations omitted).

III. There Is No Need to Further Modify ICC Rules for Originating Access at This Time.[34]

In the *Order*, the Commission acted to substantially transform the Intercarrier Compensation system as a whole. Most aspects of ICC reform are to be implemented through a phased-in transition from the current system to an eventual bill-and-keep system. The Commission, however, moved to adopt certain immediate (rather than phased-in) changes to the terminating access regime in order to address special cases it perceived to present opportunities for arbitrage.

The FCC particularly focused on rules limiting stimulation of end-user traffic terminated in LATAs with higher-than average terminating access rates (termed "access stimulation").[35] Those rule changes, however, were not made applicable across the board to all terminating access charges. Rather, they apply only to situations in which the Commission finds "access stimulation" to exist.

Reduction of originating access charges, in contrast, should not be treated as a special priority matter. No impetus for avoiding arbitrage exists with respect to originating access charges, which do not affect end-user calling patterns, and the Commission should take no action now to eliminate originating access charges, because the marketplace can be expected to address them adequately.

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[34] The *FNPRM* requests further comment on originating access issues. *FNPRM* at ¶1301. The *Order* capped originating interstate access rates and transport rates at current levels but did not specify a transition plan for further reductions. *Order* at ¶¶ 778; 801.

[35] The Commission also adopted revised call signaling rules to minimize "phantom traffic" issues relating to insufficiently or inaccurately identified traffic that hampers correct ICC billing of originating carriers by terminating carriers. Phantom traffic is not an issue with respect to originating access, because the originating carrier can determine the traffic's destination.

In the case of a vertically integrated provider that supplies both local and long distance service to an end-user, access charges already are essentially non-existent. Much traffic is being carried under contract-based rather than tariff-based regimes,[36] with total originating access charges reduced by the increasing use of bilateral negotiated commercial agreements that replace tariffed rates with negotiated charges that reflect the efficiencies of large-volume traffic exchanges.

To eliminate originating access charges during the transition, however, would disadvantage carriers that are not vertically integrated, causing them to lose revenues they now receive that are related to their role in traffic carriage. Carriers are just beginning to adjust to the fundamental changes in ICC effected by the *Order*. For the Commission to mandate elimination of originating access charges now would result in additional calls for alternative recovery mechanisms, placing pressure on the CAF, or requiring additional increases in end-user charges beyond those contemplated by the *Order*.[37] Moreover, it would put the Commission in the position of favoring large, vertically-integrated providers over smaller carriers.

In the case of originating access, there is no problem requiring immediate regulatory attention, and the Commission therefore should take no further action in this area at this time.[38]

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[36] *See Order* at ¶¶ 739 (specifying the transition schedule for reforms to terminating access), 777 (noting there are fewer concerns with originating access).

[37] *See Order* at ¶ 739.

[38] In response to the Commission's inquiry, FNPRM at ¶1303, origination of "8YY" traffic should continue to be treated in the same manner as origination of any other type of traffic for access charge purposes. As with any other originating access situation, if the interexchange carrier ("IXC") is vertically integrated with the originating LEC, or if the IXC has a commercial agreement with the LEC delivering the call to the IXC network, then tariffed originating access charges are a non-issue. As with other originating traffic, this traffic does not present arbitrage opportunities. A classic 8YY traffic situation is the important consumer service of toll-free product support. If an IXC, for example, finds its toll-free service offering is not appropriately-priced, then the IXC can raise the charges assessed on its 8YY

IV. It Would Be Premature to Adopt Rules for One-Way VoIP Call Signaling.[39]

HyperCube is on record in this proceeding as a strong proponent of enhanced call signaling rules.[40] As a general matter, these rules are important for public health and safety reasons and for network design, as well as to minimize phantom traffic. The information provided through call signaling not only is used for billing purposes, but also, *inter alia*, to provide critical location determination information to Public Safety Answering Points, emergency services providers, and first responders.

Nonetheless, the issue of call signaling for one-way Voice over Internet Protocol ("VoIP") services is only beginning to be addressed by industry groups, such as the Alliance for Telecommunications Industry Solutions ("ATIS"). A number of ATIS working groups now are considering such issues as the technical feasibility of transmitting call signaling data in the

customer. The help-desk provider can then determine whether or not it is economical to continue to offer the toll-free service, or whether the help-desk should switch IXCs. Usage of the service is controlled by the help-desk provider that decides to offer the help-desk service (the IXC's customer), not by the consumer initiating a call to the service. A carrier sending a toll-free call to an unaffiliated IXC, however, does not receive compensation from an end-user for carrying the 8YY call. The carrier serving the consumer provides the same traffic delivery functionality regardless of whether the call is to an 8YY number or not. If the originating carrier did not receive access charges for 8YY traffic, it would end up paying the IXC (which is already receiving compensation from the help-desk, which has selected that carrier) for carriage of the traffic, rather than being compensated for the costs related to originating the call.

[39] *See FNPRM* at ¶1400 (inquiring as to the need for and feasibility of the Commission's imposition of call signaling rules on one-way Voice over Internet Protocol ("VoIP") services).

[40] *See, e.g.*, Consolidated Opposition of Hypercube Telecom, LLC to Petitions for Reconsideration and/or Clarification (filed Feb. 9, 2012) ("HyperCube Opposition") at 23-26 (citing earlier filings by HyperCube in this proceeding).

context of new technologies.[41] HyperCube is actively participating in these efforts and encourages other carriers to do the same.

Until these industry efforts have advanced further, however, it would be premature for the Commission to give plenary consideration to, much less adopt, call signaling rules for one-way VoIP services. The Commission can expect that ATIS and other industry groups will keep the Commission well-informed of the status of their analyses of these issues.

Now, however, when there are neither industry studies nor preliminary industry recommendations for the Commission to review, any agency rulemaking would be conducted in a near-vacuum, and the record would be far from complete. HyperCube therefore recommends that the Commission defer consideration of this issue indefinitely.

CONCLUSION

As discussed in these Comments, the Commission should require all ILECs to enter into good faith negotiations for direct network interconnection for TDM, and in some cases, IP traffic exchanges, provided that the requesting carrier demonstrates the traffic exchange would require minimum facilities of four T-1s or the equivalent. The Commission also should immediately require all carriers to provide indirect IP interconnection. Direct IP interconnection should be required of all ILECs and CAF payment recipients when they commence IP-formatted services to their end-users, or at the applicable ICC transition deadline, whichever is earlier. Additionally, the Commission should not now modify the rules applicable to originating access charges, instead relying on market forces to address them. Finally, the Commission should defer

[41] *See generally, e.g., Comments of the Alliance for Telecommunications Industry Solutions*, GN Docket No. 11-117, *et al.* (filed Oct. 3, 2011) (describing on-going work of ATIS committees considering E-911 Phase II and ATIS cooperation with other industry groups).

consideration of call signaling rules for one-way VoIP services pending study and analysis of the need for and feasibility of such rules by industry organizations.

Respectfully submitted,

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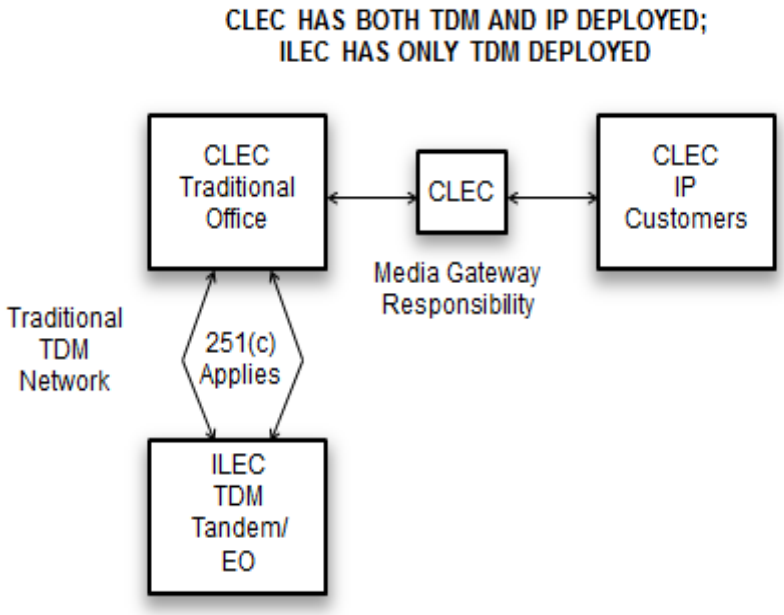
ATTACHMENT A

CONCEPTUALIZATION MEDIA GATEWAY RESPONSIBILITY UNDER ALTERNATE



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